

THE MINERAL INDUSTRIES OF ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA

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Europe's Adriatic Balkan region is part of the southern portion of the Mediterranean Alpine folded zone, which extends through the Dinarides of the former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Serbia and Montenegro, and Slovenia), the Albanides of Albania, and the Hellenides of Greece. The exploitation of the Bor copper deposit in Serbia may have had prehistoric beginnings; however, mining for base and precious metals may be traced through historical records to at least the 5th century BC.

More recently (from the 1930s to 2000), mineral deposits in the region became better defined. Commercial resources of major base metals included those of aluminum, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, and zinc. Precious metals (gold, silver, palladium, and platinum) were found mainly in association with such base metals as copper, lead, and zinc. Industrial minerals are represented by a broad range of carbonate and silicate rocks, clays, gravels and sands, and volcanic material. Mineral fuels included coal (lignite), natural gas, and petroleum.

Until the early 1990s, the mining, processing, and downstream exploitation of base metals established the region as a major European source of copper, lead, and zinc and a major world producer of chromite. The transition of the region from central economic planning to market economy systems from 1991 to 2000, however, began a swift deconstruction of existing political, commercial, and social structures. The ensuing political, social, and ethnic tensions and conflicts destroyed or degraded much of the region's mineral industries and industrial infrastructure. In 2000, active conflict in the region centered in Kosovo Province in Serbia and Montenegro and in Macedonia.

The future status of the minerals industries in the countries of the Adriatic Balkan region will only be clarified following political settlement and normalization not only between the states in the region, but also within Bosnia and Herzegovina, Croatia, Macedonia, and Serbia and Montenegro.

ALBANIA

In 2000, Albania continued to make progress toward fully developing a market economy system. The country's gross domestic product (GDP) grew by 7.8% compared with that of 1999. This was the third year of sustained economic growth, following a major downturn in 1997 that was caused partly by internal economic issues related to Albania's transition to a market economy and partly by regional instability, especially in the neighboring republics of the former Yugoslavia.

Mineral deposits that traditionally are associated with Albania

include chromite, copper ore, and nickeliferous iron ore, as well as natural gas and petroleum. In 2000, with the exception of nickeliferous iron ore, these deposits and such other minerals as bauxite, phosphate rock, dolomite, gypsum, and marble have been intermittently worked. Only chromite, copper, gas, and oil, which are minerals of major commercial importance, have shown sustained exploitation.

Under the central economic planning system, especially from the late 1970s through 1990, Albania's chromite mining operations were among the more important components of the mineral industry. During this period, Albania was a leading world producer and exporter of chromite; the country often was ranked second in terms of export and third in terms of production. During this period, exports of chromite, ferrochromium, and petroleum refinery products constituted the country's chief sources of foreign exchange.

For much of the 1990s, Albania's chromite mining and processing industry generally paralleled the moribund performance of the country's economy. Mine production, which amounted to more than 1 million metric tons per year (Mt/yr) of chromite in the 1980s, declined to 236,000 metric tons (t) by 1995, and fell to 79,445 t in 1999. Following several years of unsuccessful searches for foreign partners to invest in the chromite mining and processing industry, in 2000, the Government of Albania awarded Hayri Ogelman Madencilik of Turkey a long-term concession to upgrade and operate the Kalimash mining and beneficiation complex and, in addition, to develop mines at the Perollajt and Vllahane deposits in the northeastern part of the country. Hayri Ogelman Madencilik also planned to invest about \$40 million in these projects as well as for the construction of a new ferrochromium plant in Elbasan (European Bank for Reconstruction and Development, 2001a, p. 17).

The existing ferrochromium plant at Elbasan came under operational management of ferrochromium producer, Darfo S.p.A. of Italy because of a long-term, 30-year concession agreement with the Government of Albania (European Bank for Reconstruction and Development, 2001a, p. 17). The agreement also gave Darfo the right to operate the Pojska and the Prrerjas chromite mines; the Pojska Mine had not produced since 1996, and the Prrerjas Mine last reported production in 1998 (980 t). Darfo's investment plan would amount to \$15 million, of which \$14.5 million was earmarked for modernization of the Elbasan ferrochromium plant and \$0.5 million was to be invested in the Pojska and the Prrerjas Mines. Darfo sought a second concession to operate the Bulquize mining and beneficiation complex.

In 2000, the Turkish copper smelting concern, Ber-Ober

Madencilik San ve Tic As (Ber-Ober), was granted a 30-year concession to operate Albania's copper industry on a build-operate-transfer basis. The concession included mines and processing facilities in the Lezhe, Midrite, and Puke Districts. Ber-Ober planned to invest about \$24.5 million in Albania's copper industry (European Bank for Reconstruction and Development, 2001a, p. 17).

Between 1994 and 1996, there was a hiatus of steel production at the Elbasan steelworks, which virtually had been abandoned during the 1990s. Some production resumed in 1997, 1998, and 1999, which amounted to 20,533 t, 19,527 t, and 4,813 t, respectively. In 1999, operations and management at Elbasan came under control of Kurum Steel Co. of Turkey under a 20-year lease agreement with the Government of Albania. By the beginning of 2000, production at Elbasan had risen to more than 10,000 metric tons per month from less than 10,000 metric tons per year (t/yr) (European Bank for Reconstruction and Development, 2001, p. 18). In 2000, Kurum's operations at Elbasan were based on two 15-t electric arc furnaces, a third electric arc furnace being converted to a ladle furnace, and one ladle furnace. In addition, Kurum operated a 250,000-t/yr billet caster, a 20,000-t/yr medium sections mill, a 180,000-t/yr bar and 30,000-t/yr wire rod mill, and a 10,000-t/yr merchant bar mill. Total finished carbon steel capacity at Elbasan in 2000 was 240,000 t/yr. Scrap steel raw materials were imported from Turkey and Ukraine. Target markets included Kosovo (Ayers, 2000).

The privatization and sale of the Fushe-Kruje cement plant for \$12.5 million in April was among the major events in the industrial minerals sector during the year (European Bank for Reconstruction and Development, 2001a, p. 12, 15). The plant reportedly had production capacity of 150,000 t/yr of cement. The new owner RMC-ECF (a United Kingdom-Lebanese consortium) instituted an investment program to raise the capacity to meet 45% of domestic needs, thereby reducing imports. Recent cement output has not exceeded the 243,000 t produced in 1995, and imports have ranged from 500,000 to 600,000 t/yr. Facility expansion was expected to be completed in 2001. In 1997, the Lebanon-based cement trading and producing concern Seament Holding S.A.L. acquired a 70% stake in the Elbasan Cement Factory and 70% in United Quarries, which operated an adjacent limestone quarry. Facility expansion also was planned at the Elbasan plant, which would include the installation of a new 500,000-t/yr dry process clinker kiln. The project would include the possible participation of the European Bank for Reconstruction and Development; financing could range between \$15 million and \$18 million (European Bank for Reconstruction and Development, 2001a, p. 12, 15).

Albania's energy production was based on coal, hydropower, natural gas, and petroleum production. The output of such mineral fuels as natural gas and petroleum, however, was central to the country's future developmental plans. The country's reported recoverable reserves of petroleum amounted to about 550 million metric tons. The state petroleum- and natural-gas-producing company Albpetrol Ltd. was reorganized in 1999 into three commercial companies—APC (the new official designation of Albpetrol), which was in charge of petroleum production; Servcom Sh.A., which was in charge of handling services; and Armo, which was in charge of refining and marketing (European Bank for Reconstruction and Development, 2001a, p. 17). With the participation of the

World Bank and the Government of Italy, Armo was the first to be privatized in 2001. Most of the Albania's petroleum was extracted at Berat and Fier in the south-central and southwestern parts of the country, respectively. The major refineries were at Ballsh, which had capacity of 1 Mt/yr, and at Fier, which had capacity of about one-half that of Ballsh. The Ballsh refinery indicated plans to start the production of lead-free refined gasoline in 2001. Three other refineries with a cumulative capacity of 1 Mt/yr were capable only of primary processing.

Another major activity in the petroleum sector involved a memorandum of understanding that was signed during the year relative to the construction of a trans-Balkan pipeline that would extend from Burgas on the coast of Bulgaria through the city of Skopje in Macedonia to the port of Vlore in Albania. The Burgas Vlore Pipeline was projected to be about 913 kilometers long and have a total cost of \$1.13 billion. The pipeline would be built and operated by the U.S.-based consortium Albanian, Macedonian, and Bulgarian Oil Corp. Financing would be based on bank credits from international financial institutions (about \$60 million), and the balance, from the sale of company shares. Construction was scheduled to start in 2001 and to be completed in 2005. The pipeline was intended to carry 750,000 barrels per day of petroleum from Russia and other states of the former Soviet Union from the Black Sea to western European markets.

BOSNIA AND HERZEGOVINA

Bosnia and Herzegovina's mineral resources with associated mining and processing facilities remained divided within the country's two administrative zones—the Federation of Bosnian Moslems and Croats (FBC), which formed one entity (about 51% of Bosnia and Herzegovina), and the Republika Srpska (RS) with a predominantly Serbian population, which formed the other entity (49%). In 2000, the process of reintegrating the two zones continued to show little progress.

The economy of Bosnia and Herzegovina continued to be difficult to gauge owing to the lack of uniform reporting by each side to the Agency for Statistics in Sarajevo. The growth rate of the country's GDP for 1999, which continued to be driven by transfers from abroad and by capital inflows, was revised to 7% from the 10% reported earlier (Central Bank of Bosnia and Herzegovina, 2000, p. 36). A similar GDP growth rate in 2000 was expected but would be contingent on continued financial assistance from the international community, which continued to focus its efforts on the development of a market economy and the reconstruction of Bosnia and Herzegovina's postwar industry and infrastructure (U.S. Agency for International Development, 2000a).

Industrial production in the FBC rose by 8.8% in 2000 compared with that of 1999. The energy sector, which represented about 35% of the value of industrial output (coal production and electric power), accounted for most of this increase. Overall, mining output, which accounted for more than 10% of total industrial production, rose by about 10.4% in 2000 compared with that of 1999. In the FBC, coal was produced in the Tuzla and the Zenica regions with most of the output earmarked for the Kakanj and the Tuzla powerplants. The FBC accounted for about 80% of total resources of brown coal and for about 60% of the lignite in Bosnia and Herzegovina. Bauxite and alumina were produced in the southern and western areas of the FBC, and aluminum was

smelted in Mostar. Lead and zinc ore has been produced at Olovo and Vares, but the mining status of these operations was uncertain in 2000. Iron ore production was centered at Jablanica and Vares, and that of manganese ore, at Bosanska Krupa.

The FBC was the only producer of steel in Bosnia and Herzegovina. BH Steel Co. Zenica produced pig iron and carbon steel; additional cold-rolled steel and pipe was produced at Unis in Sarajevo. In 2000, major activities in the steel sector included a contract awarded to Danieli SpA of Italy by BH Steel to supply a new 100-t electric arc furnace and to modernize an existing light section mill.

The FBC also had exploitable resources of barite, gypsum, magnesite, and rock salt. The levels of output of these as well as other mineral commodities, however, were not fully clear in 2000.

In the RS, industrial production increased by 5.6% in 2000 compared with that of 1999. The increase was buoyed largely by an 8.6% increase in the output of raw materials, of which nonferrous metals and base chemicals reportedly recorded the largest increase in production (Köhl, 2001). All branches of the minerals industry (mining to semimanufactures), however, represented about 20% of total industrial output.

Bauxite deposits of regional importance were worked at Vlasenica and Zvornik in the eastern RS and near Banja Luka in the northwestern RS. Although the RS was not a producer of aluminum, alumina was refined at Zvornik for export. Lead and zinc were mined at Srebrenica. Substantial deposits of nickel also had been worked at the Vardiste Mines near Visegrad. Although complete data on mineral production have been scarce, the latest data (1998) on capacity utilization suggest a low level of production within the minerals industry sector of the RS. In ferrous metals mining and beneficiation, nonferrous metals mining, and nonferrous metals production, capacity utilization amounted to about 20%, 5%, and 8%, respectively. Capacity utilization for total downstream metalworking amounted to about 61%. Capacity utilization in industrial minerals mining and processing had fallen to about 14% and 3%, respectively. In the cement, concrete, and sand production branches, capacity utilization amounted to 24%. Coal production and petroleum-refining branches reported having attained capacity utilization levels of 59% and 26%, respectively (U.S. Agency for International Development, 2000b, p. 48-54).

The modernization and privatization of the mineral industries in both halves of Bosnia and Herzegovina as well as the establishment of reliable markets continue to be essential for their long-term viability.

CROATIA

Petroleum production and refining remained the chief components of Croatia's minerals industry. Small quantities of ferrous and nonferrous metals and industrial minerals were produced, mainly for domestic needs.

In 2000, following a year of economic stagnation, Croatia's GDP grew by 3.5%, and industrial production, by about 1.7%. The total value of output of the mining and quarrying sector increased by 1.8%, of which the value of petroleum output increased by 2%. The output of petroleum refinery products, base metals, and processed industrial minerals rose by 5.4%, 4.4%, and 4.1%, respectively.

Major activities in the oil and gas sector included the Government's plan to privatize Croatia's state-owned oil company Industrija Nafte d.d. Zagreb (INA) in 2002. INA operated domestic oilfields and gasfields southeast of Zagreb near the Hungarian border and along the Adriatic coast. The country's primary source of petroleum came from imports via the Adria pipeline that runs from Omisalj on the Adriatic coast toward Sisak (refinery) to the east and then northward towards Hungary. About two-thirds of the crude oil consumed by Croatia was imported from oilfields that INA operated under contract in Angola, Egypt, and Russia. New offshore Adriatic deposits were under development and exploitation through a joint venture with ENI of Italy (European Bank for Reconstruction and Development, 2001, p. 13). Also, INA's Sisak refinery began to ship petroleum refinery products to Serbia and Montenegro in October shortly after the cancellation of the international embargo. Other developments involved Jadranski Naftovod, d.d. Zagreb (JANAF), in which INA held a 38% stake. In October, JANAF and Russia concluded an agreement that called for Yukos of Russia to participate in the modernization of the Adria pipeline and its linkage with Yukos's Druzhba pipeline, which supplies Central Europe with petroleum. The project would allow Yukos to transport crude petroleum to the port of Omisalj in Croatia for loading onto tankers (European Bank for Reconstruction and Development, 2001b, p. 13).

Croatia's production of metals was based mainly on domestic and imported secondary raw materials. With the exception of crude steel, the output of which fell by nearly 8%, the production of aluminum semimanufactures (output of primary aluminum declined slightly) and ferroalloys registered recovery in 2000. Ferroalloy (ferrochromium) production resumed following a break in output in 1999.

Jadranska Zeleżara Split on the Adriatic coast and SP MK Zeleżare Sisak d.d. in Sisak composed the country's steel industry. Major activities in the iron and steel industry in 2000 included a contract Jadranska awarded to Voest Alpine Industrieanlagenbau of Austria to modernize Jadranska's operations. The renovation of Jadranska would cost about \$10 million and include the installation of a new electric arc furnace, a two-stand Concast billet caster, and a rolling mill. The new electric arc furnace, which would replace two older furnaces, was scheduled for startup in September 2001 and would have a design capacity of 81,000 t/yr. Total steel production capacity at Jadranska was to be about 170,000 t/yr (Metal Bulletin, 2000a). Other issues in the steel industry involved the European Union's (EU) imposition of a definitive 23% duty on imports of Croatian seamless pipe and tube in response to findings of dumping by the European Commission. This measure replaced the imposition of a provisional 31.2% duty by the EU in 1999 (Burgert, 2000).

There was a rise in output in the industrial minerals sector. The cement industry, which helped drive the quarrying of industrial minerals used in construction saw production increase by more than 3% compared with that of 1999. Foreign investment by a United Kingdom-based consortium in Dalmacija Cement, which amounted to \$48.01 million, mainly was earmarked to convert operations from fuel oil to coal and petroleum-based coke.

The outlook for Croatia's economy and minerals industry, as well as for that of the other republics of the former Yugoslavia, is captive to political and social stabilization in the region.

MACEDONIA

The Former Yugoslav Republic of Macedonia (Macedonia) showed strong recovery from the economic downturn that followed the Kosovo conflict of 1999. The GDP increased by 5.1% compared with that of 1999. The industrial minerals and construction material branches of industry were major contributors to this rebound, which mainly was caused by demand generated by reconstruction efforts in neighboring Kosovo. Freer access to markets in the EU also helped improve the country's economic performance in 2000 (European Bank for Reconstruction and Development, 2001, p. 2-5). In 2000, industry and mining accounted for 21.1% of Macedonia's GDP. Compared with that of 1999, the increase in the total value of industrial production exceeded 5%, of which the output of coal, iron and steel, nonferrous ores and metals, and construction materials accounted for 2.1%, 4.3%, 4.8%, and 5.1% respectively (European Bank for Reconstruction and Development, 2001, p. 12).

The Government of Macedonia remained committed to developing the country's market economy system as well as promoting foreign investment. In 2000, foreign investment was represented almost in all branches of the minerals industry.

Macedonia produced a range of metals that included copper, ferroalloys, lead, silver, steel products, and zinc. The country's secondary aluminum industry centered on Alumina A.D. in Skopje, which had the capacity to produce 20,000 t/yr of billets and 12,000 t/yr of semimanufactures. The denationalization of major enterprises in the metals branch had important results during the year. The Skopje-based Feni-Rudnici i Industrija za Nikel, Celik i Antimon (FENI), which produced mainly ferronickel, was acquired by Societe Commerciale de Metaux et Mineriaux (SCMM) of France for \$2.25 million. FENI was 1 of 12 loss-making Macedonian enterprises that were determined to be suitable for closure or sale by the International Monetary Fund. Earlier in the year, Glencore International AG of Switzerland and other commercial enterprises had conducted negotiations with the Government to purchase FENI, which did not prove successful. The terms of SCMM's acquisition of FENI included a purchase price of \$2.25 million and a commitment to invest a further \$36 million in FENI's operation (Cahners Business Information, 2000; Hope, 2000). The Government of Macedonia also sold 82% of shares of the country's principal mine producer of copper Bucim, Rabotna Organizaciija za Rudarstvo i Metalurgija za Baker's (Bucim) (246,270 shares at \$6.06 per share) through the Macedonian Stock Exchange. Bucim operated a mine and mill near Radovis. Other enterprises that were slated for sale or closure included ferroalloy producer Jugohrom, Hemijsko-Elektrometalurski Kombinat and the lead and zinc mining, beneficiation, and smelting complex Prepobotuvacki, Kombinat Zletovo-Sasa (Hope, 2000). Steel was produced at AD Makstil (a subsidiary of Dufenco). Dufenco had made investments that included upgrading the steel plant's continuous casters and electric arc furnaces and the installation of a ladle furnace. In 2000, Makstil reported that the production of heavy plate exceeded 240,000 t.

Macedonia also produced such industrial minerals as bentonite, feldspar, gypsum, sand and gravel, and stone (carbonate and silicate), as well as cement and other construction materials that were based on domestic quarried products. About 20% of mine output of industrial minerals was

consumed domestically; the balance was exported mainly to other Balkan countries, the EU, and Russia. In 2000, important activities in this branch, including its downstream construction materials group, included a planned sale of Mermeren Kombinat Prilep, which was the country's largest producer of marble, to I. Kiriakidis S.A. of Drama, Greece. The Cyprus-based consortium Balkcem Ltd. (comprising Titan Cement S.A. of Greece and Holderbank Group of Switzerland) invested \$30.7 million in A.D. Cementarnica USJE (USJE) for facility modernization to reduce costs and to increase environmental protection. To help achieve the latter, Balkcem, which had acquired 86.4% of USJE's shares in 1998, planned to discontinue USJE's production of asbestos and asbestos cement in 2001 (Multilateral Investment Guarantee Agency, 2000).

Coal and petroleum constituted about 52% and 15%, respectively, of total fuel sources at electric power generators. Most coal (lignite) was from domestic mining; however, all natural gas and petroleum had to be imported. Major foreign investment in the energy sector was accomplished in late 1999 with the purchase of OKTA A.D., Macedonia's sole petroleum refinery. In addition to the \$32 million purchase price, Hellenic Petroleum S.A. indicated that it would allocate an additional \$40 million for the modernization of the refinery. In December, the European Bank for Reconstruction and Development indicated approval of a \$50 million loan to help finance the Thessaloniki-Skopje crude petroleum pipeline. The proposed pipeline, which would carry 2.5 Mt/yr of petroleum, was expected to reduce transportation costs of petroleum to Macedonia. Additionally, the proposed pipeline, which would extend from the Greek port of Thessaloniki to its OKTA terminus, was considered to be a better environmental alternative to the existing rail and trucking petroleum delivery route that follows the Vardar River, which also is a wildlife habitat (European Bank for Reconstruction and Development, 2001, p. 17).

SERBIA AND MONTENEGRO

Serbia and Montenegro began the year facing a major effort to rebuild roads, electric power stations, steel mills, and other industrial plants and infrastructure that had been heavily damaged during the Kosovo conflict of 1999. Additionally, bridges that had been destroyed by the North Atlantic Treaty Organization (NATO) air campaign remained effective obstacles to normal international freight traffic, which included a significant amount of mineral raw materials, on the Danube River.

Despite continuing economic sanctions imposed by the international community and the loss of effective political and economic control of Kosovo (with resources of nickel, lead, and zinc ores, coal, and production facilities for lead and zinc, ferronickel, and tin-plate, as well as a substantial portion of lignite-producing mines), the economy of Serbia and Montenegro rebounded from the sharp decline of 18% in the GDP in 1999. In 2000, the country's GDP rose by 7%, and industrial production, by 12% compared with those of 1999 (Serbia and Montenegro Federal Statistical Office, 2001, p. 4).

The yearend results of the minerals industry generally showed improvement in performance compared with those of 1999. The value of output levels attained in 2000 in the mineral fuels branch showed increases of 8%, 11%, and 6% for coal, oil and gas, and oil derivatives, respectively; iron and steel, industrial

(nonmetallic) minerals, and nonferrous metals branches recorded 152%, 38%, and 7% increases in output, respectively, compared with 1999 production levels (Serbia and Montenegro Federal Statistical Office, 2001, p. 4). A comparison of output with prewar mineral production levels achieved in 1998, however, underscores a far less than full recovery.

The gross weight of mine output of lead and zinc and copper ores was 52% and 35%, respectively, below respective output levels achieved in 1998; the production of refined lead, silver, copper, and zinc, fell short by 95%, 78%, 52%, and 42%, respectively. In the nonferrous metals branch, only alumina, aluminum, and bauxite operations, which are in Montenegro, registered substantial gains compared with 1998 in terms of physical production levels, largely because of favorable treatment that was accorded to Montenegro's economy by the European Commission. Aluminum, alumina, and aluminum hydroxide were the only products that would be allowed entry into the EU from Serbia and Montenegro duty free (Metal Bulletin, 2000c). To meet prospective export opportunities, Montenegro's Podgorica smelter (managed by Glencore) announced plans to decrease idle capacity at the plant and to lower production costs (Reuters Ltd., 2000a). Such subsidiary semimanufacturing operations as rolling mills, casting plants, and other similar facilities were to be offered for sale during the year (Metal Bulletin, 2000b).

Exports of most nonferrous metals and nonferrous metal semimanufactures registered increases in 2000, albeit not at the levels of aluminum and its alloys. Major issues in the nonferrous metals industry remained centered on the Bor and the Trepcia mining, beneficiation, smelting, and refining complexes for copper and lead and zinc, respectively. Rudarsko Topionicki Bazen's Bor mining, beneficiation, and smelting complex, which accounted for all of Serbia and Montenegro's mine, smelter, and refinery output of copper production, was the subject of domestic and international scrutiny and concern about the alleged smuggling of gold recovered from copper mining to foreign metals markets (Smith, 2001). Kosovo-based Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepcia (Trepcia), which had operated only the lead plant fed by stockpiled concentrates since resuming operation in July 1999, was seized by NATO forces. According to NATO spokespersons, the objective of the seizure was to bring the smelter into compliance with environmental regulations (Mining Journal, 2000; Reuter Ltd., 2000b). NATO authorities, however, promised to keep and pay the Trepcia workforce at their current (2000) salary levels despite a modernization program that could take several years (Maguire, 2000). Trepcia also had been a producer of such associated metals as antimony, bismuth, cadmium, gold, and silver.

The gross weight production, in order of processing, of crude steel, pig iron, and steel semimanufactures fell short of their 1998 production levels by 28%, 32%, and 58%, respectively. In 2000, the Yugoslav Iron and Steel Federation commissioned Usinor Consultants of France to study ways to raise the competitiveness of Serbia and Montenegro's steel industry. As part of an overall rationalization strategy, Usinor urged a rapid privatization of the Sartid AD Smederevo integrated steel mill in Serbia and Zeljezra Niksic AD in Montenegro. Near-term plans for facility expansion at Sartid also included the installation of a 150,000-t/yr galvanizing line and a new continuous caster, as well as a pulverized coal injection system in the No. 2 blast furnace. Plans at Zeljezara Niksic included

the installation of a new electric arc furnace, a new continuous casting unit, and a new ladle furnace.

The situation for industrial and mineral fuels was not dissimilar to that of the metals; most commodities in 2000 were substantially below their 1998 output levels, with the exception of bentonite, brown coal, gypsum, lime, quartz sand, and salt, which showed increases. A negotiated lease by the United Nations Interim Administration Mission in Kosovo of the Sharr cement plant (near the Macedonian border) to Holderbank Financière Glaris Ltd. was one of the salient events in the industrial minerals branch. Under the terms of the lease, Holderbank would invest about \$16.4 million in the Sharr cement plant to modernize production and to institute environmental protection and health and safety standards. The full operation of the 600,000-t/yr Sharr cement plant and attendant quarries, whose production included clay, limestone, and marl, also would help stabilize employment in the region.

At yearend, striking coal miners in Serbia helped bring about a recognition of election results by the Government. Political and economic stability in the region, however, appears to be a long-term prospect.

SLOVENIA

Slovenia's minerals industry produced a modest range and minor quantities of mineral commodities that included coal, natural gas, petroleum, and a variety of industrial minerals. The country relied heavily on imports of fossil fuels, ferrous and nonferrous ores and metals, and other mining and quarrying products.

With well-developed systems of transportation and modern telecommunications, Slovenia had one of the more technically advanced industrial bases of the republics of the former Yugoslavia. Chemicals, electronics and telecommunications, and retail were the sectors with highest rates of growth (European Bank for Reconstruction and Development, 2001, p. 3). In 2000, the performance of the country's economy remained positive, given the increase in the GDP of 4.25% compared with that of 1999; the total value of industrial production rose by 6.2%. The output and fabrication of metals showed combined gains in excess of 12%. The mining and quarrying share of industrial output, however, declined by 2.7%, as did that of industrial mineral products, which declined by 3.6%. Also, a substantial decline of production of processed mineral fuels (primarily coke and petroleum refinery products) was noted.

With the exception of nonferrous metals, whose value of imports continued to match that of exports, Slovenia depended heavily on imports for almost all mineral commodities. According to the latest available trade data (1999), this dependency, valued in U.S. dollars, increased for most commodity groups in 1999 compared with that of 1998. In 1999, the net value of imports of gold (nonmonetary), metal ores and scrap, and iron and steel increased by 70%, 11.5%, and 1.2%, respectively. Net imports of industrial mineral goods rose by about 5.7%. With respect to mineral fuels, the combined net import value of coal, coal briquettes, and coke increased by about 63%, but that of crude and refined petroleum declined by about 17% compared with those of 1998 (Statistical Office of the Republic of Slovenia, 2000, p. 390-391).

The Government continued to promote the country's transition process to a market economy system. The Energy Act

was adopted in 1999 to promote privatization and stimulate foreign investment in the energy sector. Major activities in the energy sector included a program of modernization at the Krsko nuclear powerplant, which Slovenia jointly owns and operates with neighboring Croatia (European Bank for Reconstruction and Development, 2001, p. 14).

In 2000, salient activities in the steel industry included the addition of a new automated quality inspection line at INEXA Store Ltd., which was valued at \$1.2 million.¹ INEXA also planned to modernize the plant's rolling mills. SZ Jeklo Store d.o.o. was privatized in 1999 and acquired by INEXA Group of Sweden. Additionally, a new forging line was added at the SZ Ravne d.o.o. steel mill; the new line replaced an older unit to produce bar sections, flat sections, and other products from all grades of steel.

Important activities in the nonferrous metals industry included the planned facility expansion at Slovenia's aluminum smelter Kidricevo Talum d.o.o. that would increase production capacity to about 155,000 t of primary and secondary aluminum by 2002 from about 100,000 t in 2000. Talum obtained outside financing for the project (a new pot room) that amounted to \$76 million in addition to its own capital. Talum also planned to produce 117,000 t of aluminum in 2001 (European Bank for Reconstruction and Development, 2001, p. 14).

Cement, clays, dimension stone, and silica products were among the industrial minerals produced in Slovenia. Consumption of cement and other construction materials continued to increase, which, in turn, would further increase demand for other industrial minerals as well as for steel and other base metals. If Slovenia should join the EU, then this trend may well accelerate with developmental emphasis being placed on rail and road infrastructure.

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¹Where necessary, values have been converted from German deutsche marks (DM) to U.S. dollars (US\$) at the rate of DM1.00=US\$0.48.

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TABLE 1

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000	
ALBANIA 3/						
Metals:						
Bauxite	--	4,454	4,128	4,624	5,000 e/	
Chromium:						
Chromite, gross weight	thousand tons	236,358	157,203	150,285	79,445	80,000 e/
Marketable ore	do.	113,361	84,423	81,994	64,597	65,000 e/
Concentrate	do.	30,402	21,881	20,195	6,837	5,000 e/
Ferrochromium	do.	31,189	31,144	30,252	28,120	25,000 e/
Copper:						
Ore:						
Gross weight	do.	187,765	24,895	53,477	33,945	35,000 e/
Concentrate		10,807	869	2,294	8,691	9,000 e/
Cu content e/		2,500	220	3,200	900 r/	900
Metal, primary:						
Smelter (blister)		1,424	--	1,632	1,281	1,300 e/
Refined		1,544	--	1,150	342	350 e/
Iron and steel, metal:						
Pig iron e/		10,000	10,000	10,000	10,000	10,000
Crude steel	-- r/	20,533 r/	19,527 r/	4,913 r/	180,000 e/	180,000 e/
Rolled steel	--	43,000	42,000	8,700	170,000 e/	170,000 e/
Industrial minerals:						
Cement, hydraulic e/	thousand tons	200	150	150	150	200
Clay, kaolin e/		500	500	500	500	500
Dolomite e/		50,000	50,000	50,000	50,000	50,000
Fertilizer, manufactured:						
Phosphatic		--	26,604	12,284	8,600	9,000 e/
Urea e/		3,000	3,000	3,000	3,000	3,000
Nitrogen, N content of ammonia e/		15,000	10,000 r/	10,000 r/	10,000 r/	10,000
Olivinite e/		300	300	300	300	200
Phosphate rock (12%-15% P ₂ O ₅) e/		1,000	1,000	1,000	1,000	1,000
Salt e/		10,000	10,000	10,000	10,000	10,000
Sodium compounds, n.e.s., soda ash, calcined e/		100	100	--	--	--
Sulfuric acid e/		1,000	500 r/	500 r/	500 r/	500
Mineral fuels and related materials:						
Asphalt and bitumen, natural 4/	thousand tons	19,597	16,900	15,782	16,625	17,000 e/
Coal, lignite	do.	68,936	38,900	33,000	30,000	30,000 e/
Gas, natural, gross production 5/	million cubic meters	22,698	18,271	16,551	14,167	14,000 e/
Petroleum:						
Coke		63,472	33,678	57,842	47,543	50,000 e/
Crude:						
Gross weight	thousand tons	448,214	359,666	364,627	323,009	320,000 e/
Converted e/	thousand 42-gallon barrels	3,300	2,400	2,000	2,400 r/	2,400
Refinery products	do.	503,995	315,072	379,131	328,875	324,000 e/
BOSNIA AND HERZEGOVINA e/ 6/						
Metals:						
Aluminum:						
Bauxite		75,000	75,000	75,000	75,000	75,000
Alumina		50,000	40,000	40,000	40,000	40,000
Metal ingot, primary and secondary		15,000	15,000	15,000	15,000	15,000
Iron and steel:						
Ore and concentrate:						
Ore, gross weight		100,000	100,000	100,000	100,000	100,000
Ore, Fe content		35,000	35,000	35,000	35,000	36,000
Agglomerate		40,000	40,000	40,000	40,000	40,000
Metal:						
Ferroalloys:						
Ferrosilicon		1,000	1,000	1,000	500 r/	500
Silicon		100	100	100	100	100
Pig iron		100,000	100,000	100,000	100,000	100,000
Crude steel		115,000	110,000	110,000	110,000	110,000
Semimanufactures		100,000	100,000	90,000	90,000	95,000

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000
BOSNIA AND HERZEGOVINA--Continued e/ 6/					
Metals--Continued:					
Lead:					
Mineral concentrator output:					
Ore, gross weight (Pb-Zn ore)	10,000	10,000	10,000	10,000	10,000
Pb content of ores	200	200	200	200	200
Pb concentrate	400	400	400	400	400
Metal, smelter, primary and secondary	100	100	100	100	100
Manganese ore:					
Gross weight	2,000	2,000	2,000	2,000	2,000
Mn content	500	500	500	500	500
Zinc:					
Zn content of Pb-Zn ore	300	300	300	300	300
Concentrate output, gross weight	600	600	600	600	600
Industrial minerals:					
Asbestos, all kinds	500	500	500	500	500
Barite concentrate	2,000	2,000	2,000	2,000	2,000
Cement thousand tons	150	200	300	300	300
Clays:					
Bentonite	800	800	800	800	800
Ceramic clay, crude	20,000	20,000	20,000	20,000	20,000
Kaolin:					
Crude	3,000	3,000	3,000	3,000	3,000
Calcined	1,500	1,500	1,500	1,500	1,500
Gypsum:					
Crude	30,000	30,000	30,000	30,000	30,000
Calcined	3,000	3,000	3,000	3,000	3,000
Lime thousand tons	50	50	50	50	50
Magnesite, crude	2,000	2,000	2,000	2,000	2,000
Nitrogen, N content of ammonia	500	500	500	500	500
Glass sand	50,000	50,000	50,000	50,000	50,000
Salt, all sources	50,000	50,000	50,000	50,000	50,000
Sand and gravel, excluding glass sand thousand cubic meters	500	500	500	500	500
Sodium compounds:					
Soda ash	10,000	5,000	5,000	5,000	5,000
Caustic soda	10,000	5,000	5,000	5,000	5,000
Sodium bicarbonate	1,000	500	500	500	500
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental square meters	20,000	20,000	20,000	20,000	20,000
Other cubic meters	2,000	2,000	2,000	2,000	2,000
Crushed and brown, n.e.s. thousand cubic meters	500	500	500	500	500
Sulfur, byproduct of metallurgy thousand tons	1	1	1	1	1
Mineral fuels and related materials:					
Brown coal and lignite do.	1,808 7/	1,810 7/	1,764 7/	1,800	1,800
Petroleum refinery products thousand 42-gallon barrels	--	500	500	500	500
CROATIA 6/					
Metals:					
Aluminum:					
Metal, ingot, primary and secondary	32,959	17,800	16,112 r/	14,461 r/	14,403
Alloys	5,257	3,354	2,191	843	977
Semimanufactures (rolled)	15,107	21,166	26,148	29,465	30,161
Iron and steel, metal:					
Ferrochromium	10,559 r/	24,231	11,861 r/	--	15,753
Steel, crude, from electric furnaces	45,752	68,733	104,854	74,429 r/	68,360
Industrial minerals:					
Cement thousand tons	1,842	2,134	2,294	2,712	2,852
Clays:					
Bentonite	9,728	7,331	7,581	8,441	10,013
Ceramic clay	10,000 e/	10,000 e/	5,022	6,000	6,100 e/
Fire clay, crude e/	5,000	5,000	5,000	5,000	5,500

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000
CROATIA--Continued 6/					
Industrial minerals--Continued:					
Gypsum:					
Crude	86,060	102,470	107,800 r/	137,991	150,765
Calcined	--	1,260	1,259	1,236	1,176
Lime thousand tons	192	208	216	198	220
Nitrogen, N content of ammonia do.	307	331	248	306 r/	328
Pumice and related materials, volcanic tuff do.	64	63	38	55	38
Quartz, quartzite, glass sand	43,508	97,563	112,018 r/	99,078 r/	95,636
Salt, all sources	18,820	16,620	24,050 r/	18,373 r/	33,668
Sand and gravel, excluding glass sand thousand cubic meters	1,401	3,853	4,316	3,644	3,480
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental square meters	1,029,437	1,130,728	1,133,405	1,457,334 r/	608,707
Crushed and brown, n.e.s. thousand cubic meters	9,099	10,520	11,459	11,871	11,000 e/
Other e/ cubic meters	20,000	20,000	20,000	20,000	25,000
Sulfur, byproduct of metallurgy e/	15,000	15,000	15,000	15,000	15,000
Mineral fuels and related materials:					
Carbon, black	26,735	24,124	22,165	17,589	20,029
Coal, bituminous thousand tons	64	49	51	15 r/	--
Gas, natural, gross production million cubic meters	1,786	1,717	1,570	1,567	1,768
Petroleum:					
As reported thousand tons	1,469	1,496	1,535 r/	1,618 r/	1,768
Converted e/ thousand 42-gallon barrels	11,000	11,000	10,400	9,600	10,300
Refinery products	4,731,974	5,056,289	5,053,000	5,438,000	5,700,000
MACEDONIA e/ 6/					
Metals:					
Aluminum, metal, ingot, primary and secondary	4,000	4,000	5,850 7/	5,000	4,500
Cadmium, smelter output kilograms	85 4/	50 r/	50 r/	50 r/	50
Chromite:					
Ore, gross weight	5,000	5,000	--	--	--
Concentrate (produced largely from imported ores)	3,000	3,000	--	--	--
Copper, mine and concentrate output:					
Ore:					
Gross weight thousand tons	2,000	2,000	2,000	2,000	2,000
Cu content	8,484 4/	8,000	9,100	10,000 r/	10,000
Concentrate:					
Gross weight	20,000	20,000	20,000	20,000	20,000
Cu content	13,500	13,000	9,100	9,000	9,000
Gold kilograms	752 4/	650	700	750 r/	750
Iron and steel:					
Iron ore:					
Gross weight	20,000	20,000	20,000	20,000	20,000
Fe content of ore	1,000	1,000	1,000	1,000	1,000
Concentrate	15,000	15,000	15,000	15,000	15,000
Pellets	10,000	10,000	10,000	10,000	10,000
Agglomerate	5,000	5,000	5,000	5,000	5,000
Metal:					
Ferroalloys:					
Ferromanganese, low C	3,780 7/	460 7/	-- 7/	-- 7/	--
Ferronickel (38% Ni), gross weight	7,900	7,900	9,500	5,000	--
Ferrosilicon	57,220	55,000	96,700	63,000	65,000
Silicon	1,000	1,000	1,000 r/	--	--
Total	69,900	64,400	107,200 r/ 7/	68,000 7/	65,000
Steel, crude	27,000	30,000	--	-- 7/	--
Semimanufactures, hot rolled plate	109,000 r/ 7/	183,700 r/ 7/	251,081 r/ 7/	159,643 r/ 7/	244,044 7/
Lead:					
Mine output:					
Ore, gross weight (Pb-Zn ore)	846,244 7/	850,000	867,182 7/	670,000	850,000
Pb content	27,000	28,000	26,000	26,000 7/	25,000
Concentrate, gross weight	16,885 7/	17,000	14,328 7/	12,300 r/ 7/	16,500

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000
MACEDONIA--Continued e/ 6/					
Metals--Continued:					
Lead--Continued:					
Primary and secondary:					
Smelter	23,000 r/	20,000	20,000	20,000	20,000
Refined	23,600 r/	26,046 r/ 7/	28,415 7/	19,738 r/ 7/	22,900
Nickel, metal, Ni content of FeNi	3,000	5,300	5,800	1,900 7/	--
Silver kilograms	20,025 r/ 7/	18,760 r/ 7/	20,000	22,000 r/	20,000
Zinc:					
Concentrate	15,017 7/	15,800 r/	14,328 7/	8,000	12,200
Metal, refined, primary and secondary:					
Smelter	7,000	7,000	7,000	7,000	7,000
Electrolytic	38,000	53,000	57,162 7/	48,000 7/	62,800
Industrial minerals:					
Cement thousand tons	491 7/	500 7/	461 7/	520 7/	585
Clays, bentonite	30,000	30,000	30,000	30,000	30,000
Diatomite	5,000	5,000	5,000	5,000	5,000
Feldspar	--	--	8,137 7/	11,000	10,000
Gypsum:					
Crude	25,000	25,000	25,000	25,000	25,000
Calcined	5,000	5,000	5,000	5,000	5,000
Lime	20,000	10,000	924	-- 7/	1,000
Pumice and related materials, volcanic tuff	75,000	100,000	100,000	150,000	150,000
Sand and gravel, excluding glass sand thousand cubic meters	130	130	130	150 r/	150
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental square meters	186,783 7/	190,000	190,000	200,000 r/	200,000
Crushed and brown, n.e.s. thousand cubic meters	400	400	400	400	400
Other cubic meters	10,000	10,000	10,000	10,000	10,000
Sulfur, byproduct of metallurgy thousand tons	6	6	6	6	6
Talc:					
Crude	10,000	10,000	10,000	9,000 r/	10,000
Washed	7,000	7,000	7,000	7,000	7,000
Mineral fuels and related materials:					
Coal, lignite thousand tons	7,887 7/	7,165 7/	7,500	7,500	7,000
Petroleum refinery products thousand 42-gallon barrels	6,000	6,000	6,000	6,000	6,000
SERBIA AND MONTENEGRO 8/					
Metals:					
Aluminum:					
Gross weight:					
Alumina, calcined	186,354	160,000	152,619	156,012	185,000 e/
Bauxite	323,000	470,000	226,000	500,000	630,000
Metal ingot, primary and secondary	37,346	65,743	60,090	72,505	88,151
Antimony, metal	(9/)	--	--	--	--
Bismuth, metal kilograms	21	20 e/	430	--	--
Cadmium do.	79,195	80,000 e/	17,320	--	--
Copper:					
Mine and concentrator output:					
Ore:					
Gross weight thousand tons	20,026	20,507	19,939	15,975	12,896
Cu content	82,526	82,500	84,627	62,777	52,000 e/
Concentrate:					
Gross weight	337,861	361,000	372,103	272,172	200,000 e/
Cu content	69,500	73,600	70,900 e/	51,700	41,000 e/
Metal, primary:					
Blister and anodes:					
Primary	59,940	59,000 e/	101,000	54,000	45,000 e/
Remelted	65,287	60,000 e/	101,925	49,782	45,000 e/
Total	125,227	119,000 e/	202,925	103,782	90,000
Refined:					
Primary	59,940	70,534	54,000	48,000	45,632
Remelted	44,060	43,000	40,396	1,902	40,000 e/
Total	104,000	113,534	94,396	49,902	85,600 e/

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000
SERBIA AND MONTENEGRO--Continued 8/					
Metals--Continued:					
Gold, refined kilograms	4,000	4,000	2,684	1,260	1,300
Iron and steel:					
Ore and concentrate, agglomerate	50,000 e/	25,000	5,125	2,088	2,000 e/
Metal:					
Ferroalloys, ferronickel	6,501	6,500 e/	1,215	--	--
Pig iron	535,000	907,000	825,916	134,882	563,000
Crude steel	679,000	979,000	948,314	226,240	682,000
Semimanufactures	860,000	1,460,000	1,740,000	296,300	739,000
Lead:					
Mine and concentrator output:					
Ore:					
Gross weight (Pb-Zn ore)	856,468	1,049,000	1,248,852	348,605	602,000
Pb content	22,327	27,000 e/	24,750	4,553	12,000 e/
Concentrate:					
Gross weight	29,009	31,000 e/	32,691	6,536	25,000 e/
Pb content	10,000	11,000	12,000	3,200	9,000
Metal, primary and secondary:					
Smelter	44,600	41,000	35,576	9,000 r/	18,000
Refined	30,317	23,632	23,756	3,690	1,242
Magnesium, metal	2,500 e/	2,500 r/ e/	3,965	1,203	1,200
Nickel, metal, Ni content of FeNi	2,556	2,440	466	--	--
Platinum-group metals:					
Palladium kilograms	56	55 e/	54	21	21 e/
Platinum do.	3	3 e/	3	3	3 e/
Selenium do.	37,840	38,000 e/	40,866	20,080	20,000 e/
Silver do.	68,805	42,640	34,474	7,643 r/	7,645
Zinc:					
Zn content:					
Pb-Zn ore	21,765	25,000 e/	20,285	4,329	12,000 e/
Concentrate	12,000	13,000	14,000	5,000 e/	11,000 e/
Concentrator output, gross weight	37,012	35,000 e/	40,530	10,286	23,000 e/
Refined	29,954	29,454	14,415	683 r/	8,291
Industrial minerals:					
Asbestos, all kinds	509	765	1,452	361	563
Cement thousand tons	2,205	2,011	2,253	1,575	2,117
Clays:					
Bentonite	95	100 e/	68	77	75 e/
Ceramic clay	36,021	35,000 e/	40,033	29,420	30,000 e/
Fire clay:					
Crude	43,053	51,000	45,319	25,766	30,000 e/
Calcined e/	8,000	10,000	10,000	4,000	10,000
Kaolin:					
Crude	60,000 e/	60,000 e/	75,092	40,321	40,000 e/
Washed e/	6,000	6,000	6,000	4,000	4,000
Feldspar, crude	4,801	4,880	4,280	3,453	3,000 e/
Gypsum, crude	44,257	32,124	27,778	33,962	30,000 e/
Lime thousand tons	456	460	480	381	497
Magnesite:					
Crude do.	89	98	949	31	40
Caustic calcined	10,601	6,327	7,044	2,000	3,000 e/
Mica, all grades	200 e/	200 e/	247	229	230
Nitrogen, N content of ammonia	235,070	235,000	166,152	75,788	150,000 e/
Pumice and related materials, volcanic tuff	120,135	120,000 e/	120,000	50,000	120,000 e/
Quartz sand thousand tons	361	366	353	253	418
Salt, all sources	21,646	28,000	78,148	63,834	78,277
Sand and gravel, excluding glass sand thousand cubic meters	3,291	2,351	3,060	2,006	2,000
Sodium compounds:					
Caustic soda	20,214	64,713	63,344	13,720	7,415
Sodium sulfate	7,000 e/	5,000	1,896	1,321	800 e/

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Country and commodity	1996	1997	1998	1999	2000	
SERBIA AND MONTENEGRO--Continued 8/						
Industrial minerals--Continued:						
Stone, excluding quartz and quartzite, dimension, crude:						
Ornamental	square meters	219,000	206,000	258,000	182,000	20,000 e/
Crushed and brown, n.e.s.	thousand cubic meters	2,263	2,665	3,085	1,937	3,000 e/
Other, stone blocks	cubic meters	12,196	9,817	1,630	786	1,000 e/
Sulfur, byproduct: e/						
Metallurgy	thousand tons	110	100	100	100	100
Petroleum	do.	1	1	1	1	1
Total	do.	111	101	101	101	101
Mineral fuels and related materials:						
Coal:						
Bituminous	thousand tons	63	92	105	49	88
Brown	do.	539	512	390	413	398
Lignite	do.	37,828	42,313	43,577	30,967	33,638
Total	do.	38,430	42,917	44,072	31,429	34,124
Gas, natural, gross production	million cubic meters	671	688	731 r/	679 r/	729
Petroleum:						
Crude:						
Gross weight	thousand tons	1,030	979	913	705	805
Converted e/	thousand 42-gallon barrels	7,600	7,500	6,800	5,200	6,000 4/
Refinery products	thousand tons	1,800 r/	3,167 r/	2,549 r/	1,047 r/	1,100 e/
SLOVENIA 6/						
Metals:						
Aluminum, metal, ingot, primary and secondary		59,486	74,400	73,803 r/	77,200 r/ e/	100,000
Iron and steel, metal:						
Ferroalloys:						
Ferrochromium		23,142	9,232	10,621	560	600
Ferrosilicalcium e/		200	200	200	200	200
Ferrosilicon e/		10,000	10,000	10,000	8,000	9,000
Steel, crude, from electric furnaces		328,000	372,700	405,210	405,000	450,000
Semimanufactures		175,000	150,000	150,000	100,000 e/	100,000
Lead, metal:						
Primary and secondary:						
Smelter e/		6,000	7,000	7,000	5,800 r/	6,000
Refined		5,601	15,000	14,000	15,000	15,000 e/
Semimanufactures, rolled		241	300	300	300 e/	300 e/
Industrial minerals:						
Cement	thousand tons	1,026	1,113	1,149	1,224 r/	1,300
Clays:						
Ceramic clay, crude e/		2,500	2,500	2,500	2,500	2,500
Fire clay		600	--	--	-- e/	-- e/
Kaolin: e/						
Crude		10,000	10,000	10,000	10,000	10,000
Washed		4,000	4,000	4,000	4,000	4,000
Lime	thousand tons	136	140	150	150 e/	150 e/
Pumice and related materials, volcanic tuff e/		40,000	40,000	40,000	40,000	40,000
Quartz, quartzite, glass sand: e/						
Quartz and quartzite		10,000	10,000	10,000	10,000	10,000
Glass sand		200,000	200,000	200,000	200,000	200,000
Total		210,000	210,000	210,000	210,000	210,000
Salt, all sources		4,033	5,000	5,000	5,000	5,000
Sand and gravel, excluding glass sand	thousand tons	10,498	10,298	10,076	12,637 r/	14,000
Stone, excluding quartz and quartzite, crude: e/						
Dimension		93,000	82,000	91,000	104,000	105,000
Other	cubic meters	3,000	3,000	3,000	3,000	3,000
Mineral fuels and related materials:						
Coal:						
Brown	thousand tons	841	812	827	758 r/	800
Lignite	do.	3,937	4,163	4,100 r/	3,804 r/	3,900
Gas, natural, gross production	thousand cubic meters	12,840	12,100	12,500	12,500 e/	12,500 e/
Petroleum, crude	thousand tons	1,400	1,100	900	100	100 e/

See footnotes at end of table.

TABLE 1--Continued

ALBANIA, BOSNIA AND HERZEGOVINA, CROATIA, MACEDONIA, SERBIA AND MONTENEGRO, AND SLOVENIA: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

e/ Estimated. r/ Revised. -- Zero.

1/ Estimated data are rounded to no more than three significant digits; may not add totals shown.

2/ Table includes data available through May 18, 2001.

3/ In addition to commodities listed, a variety of industrial minerals and construction materials (common clay, quartz, sand and gravel, stone, and titanomagnesite) are produced; output is not reported quantitatively, and available information is inadequate to make reliable estimates of output levels.

4/ Includes asphalt and bitumen produced at petroleum refineries.

5/ Separate data on marketable production are not available, but gross and marketed output are regarded as being nearly equal.

6/ In addition to the commodities listed, common clay was also produced, but available information was inadequate to make reliable estimates of output.

7/ Reported figure.

8/ In addition to the commodities listed, common clay and diatomite are also produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
ALBANIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000 1/

(Thousand metric tons unless otherwise specified)

Commodity	Location of main facilities (all state-owned)	Annual capacity
Cement	Elbasan, 32 kilometers southeast of Tirana; Kruje, 20 kilometers northwest of Tirana; Shkoder, 85 kilometers northwest of Tirana; and Vlore, southwest of Tirana	1,200
Chromite	Bater (including Bater I and II and Martanesh), 40 kilometers northwest of Tirana	450
Do.	Bulquize (including Bulquize south, Fush, Terrnove, and Todo Maco), 35 kilometers northwest of Tirana	450
Do.	Kalimash, 60 kilometers north of Tirana	250
Do.	Kam, 70 kilometers north of Tirana	100
Do.	Klos, 20 kilometers northeast of Tirana	50
Do.	Pogradec (including Katjiel, Memelisht, Pojske, Pishkash, and Prenjas), 50 kilometers east of Tirana	100
Ferrochromium	Burrel, 35 kilometers northeast of Tirana	40
Do.	Elbasan, 32 kilometers southeast of Tirana	36
Copper:		
Ore	Fushe-Arrez, 80 kilometers north of Tirana	350
Do.	Gjejan, 100 kilometers northeast of Tirana	150
Do.	Golaj (including Nikoliq and Pus), 120 kilometers northeast of Tirana	150
Do.	Kurbnesh-Perlat, 55 kilometers northeast of Tirana	100
Do.	Rehove, 110 kilometers southeast of Tirana	100
Do.	Reps (including Gurch, Lajo, Spac, and Thurr), 55 kilometers north of Tirana	350
Do.	Rreshen, 50 kilometers north of Tirana	50
Do.	Shkoder (including Palaj, Karma I and II), 85 kilometers northwest of Tirana	100
Smelter	Kukes, 110 kilometers northeast of Tirana	6
Do.	Lac, 35 kilometers northwest of Tirana	7
Do.	Rubik, 50 kilometers north of Tirana	4
Iron ore	Prenjas (Bushtrica, Prenjas, Skorska I and II), 70 kilometers southeast of Tirana	650
Do.	Guri i Kuq (including Cervenake, Grasishta, Guri i Kuq, Hudenisht and Gun Perfjrgjur), 25 kilometers east of Tirana	500
Steel	"Steel of the Party" Metallurgical Combine at Elbasan	150
Nickel, smelter	Elbasan	6
Coal, lignite	Maneze, Mezes, and Valias Mines in Tirana Durres area; Krabe Mine, 20 kilometers southeast of Tirana; Alarup and Cervnake Mines, in Pogradec area, 80 kilometers southeast of Tirana; Mborje-Drenove Mine in Korce area, 85 kilometers southwest of Tirana; and Memaliaj Mine in Tepelene area, 110 kilometers south of Tirana	2,500
Natural gas	million cubic feet Gasfields on southwest Albania between Ballsh and Fier	16,000
Petroleum:		
Crude	42-gallon barrels per day Oilfields at Marineze, Ballsh, Shqisht, Patos, Kucova, Gorrisht, and others	35,000
Refined	do. Refineries: Ballsh, Cerrik, Fier, and Stalin	33,000

1/ A substantial portion of these enterprises have been operating significantly below capacity during the transition to a market economy; the capacities provided in this table only represent the latest available information and may not show the true status of these enterprises.

TABLE 3
BOSNIA AND HERZEGOVINA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity	
Alumina	Energoinvest	Plants at Birac-Zvornik	600	
Do.	do.	Plant at Mostar	280	
Aluminum	do.	Smelter at Mostar	92	
Bauxite	do.	Mines at Vlasenica, Jajce, Bosanska Krupa, Posusje, Listica, Citluk, and other locations.	2,000	
Coal:				
Brown	SOUR Titovi Rudnici Uglja, Tuzla	Mines in BiH	12,000	
Lignite	do.	do.	7,000	
Cement	Gik Hidrogradnja, Tvornica Cementa BiH	Plant at Kakanj	650	
Ferroalloys	Elktrobosna, Elektrohemijska i Eletrotermijska Industrija	Plant at Jajce	80	
Iron ore	Rudarsko Metalurski Kombinat Zenica	Mines at Vares, Ljubija, and Radovan	5,000	
Lead-zinc ore	Energoinvest	Mine and mill at Srebrenica	300	
Manganese ore	Mangan-Energoinvest	Mine and concentrator at Buzim	100	
Petroleum:			100	
Refined	thousand barrels per day	Energoinvest: Rafinerija Nafta Bosanski Brod	Refinery at Bosanski Brod	
Pig iron		Rudarsko metalurski Kombinat Zenica (RMK Zenica)	4 blast furnaces at Zenica	2,250
Do.	do.	do.	2 blast furnaces at Vares	100
Do.	do.	do.	Electric reduction furnaces at Iljas	100
Salt	cubic meters per year	Hemijski Kombinat "Sodaso," Rudnik Soli i Solni Bunari	Rock salt mines at Tusanj	120,000
Do.	do.	do.	Production from brine at Tuzla	2,000,000
Steel, crude		Rudarsko Metalurski Kombinat Zenica	Plant at Zenica	2,060

TABLE 4
CROATIA: STRUCTURE OF THE MINERALS INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity	
Alumina	Jadral, Jadranski Aluminijum	Jadral Alumina Plant	150	
Aluminum	Boris Kidric Tvornica Lakhir Metala	Smelter at Sibenik	75	
Do.	Top-Tvornica Olovni i Aluminjskikh	Semimanufactures producer at Savska	NA	
Bauxite	Jadral, Jadranski Aluminijum	Mines in at Obrovac, Drnis, and other locations	450	
Coal, bituminous	Istarski Ugljenokopi Rasa	Mines at Labin and Potpican	500	
Cement	Dalmacija Cement	Sv. Juraj plant at Kastel Sucurac	1,300	
Do.	do.	Sv. Kajo plant at Solin	750	
Do.	do.	Majdan plant at Solin Majdan	780	
Do.	Istra Cement International D.D.	Plant at Pula	70	
Do.	Tvornica Cementa Koromacno	Plant at Koromacno	420	
Do.	Tvornica Cementa Umag D.D.	Cement plant at Umag	480	
Do.	Nasicecement D.D.	Nacise plant at Tajnovac	840	
Natural gas	million cubic feet	do.	Main natural gasfields at Bogsic Lug, and Molve	70,000
Petroleum:				
Crude	thousand barrels per day	Industrija Nafted.d. Zagreb (INA)	Oilfields in Croatia and Slovenia include Benicanci, Zutica, Struzec, Ivanic Grad, and Lendava	70
Do.	do.	do.	Refineries at Urinj and Rijeka	160
Do.	do.	do.	Refinery at Sisak	150
Pig iron		Metalurski Kombinat Zeljezara Sisak	Two blast furnaces at Sisak	235
Salt	cubic meters	Solana Pag, Solana Ante Festin	Marine salt: Pag Island	13
Steel, crude		SP MK Zeljezare Sisak d.d.	Plant at Sisak	401
Do.		Jadranska Zelezjara Split	Plant at Split	120

NA Not available.

TABLE 5
MACEDONIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity e/
Cement	Azbestcementsa "Usje" Preduzece za Proizvodnju Cementa	Plant at Skopje	2,190
Chromite, concentrate	Jugohrom, Hemijsko-Elektrometakurski Kombinat (HEK)	Concentrator at Radusa	150
Copper ore	Bucim, Rabotna Organizacija za Rudarstvo i Metalurgija za Baker	Mine and mill at Bucim, near Radovis	7,000
Ferroalloys	Jugohrom, Hemijsko-Elektrometalurski Kombinat (HEK)-Jegunovce	Plant at Jegunovce	80
Iron ore	Skopje, Rudnici i Zeljezarnica Skopje	Mines at Tajmiste, Demir Hisar, and Damjan	1,000
Lead-zinc ore	Prepobotuvacki, Kombinat Zletovo-Sasa: Sase, Rudnici za Olovo i Cink	Mine and mill near Kamenica	300
Do.	Zletovo, Rudnici za Olovo i Cink	Mine and mill near Probistip	700
Lead metal	Zletovo, Topilnica za Cink i Olovo	Imperial smelter at Titov Veles	40
Do.	do.	Refinery at Titov Veles	40
Nickel: 1/ Ore	Feni-Rudnici i Industrija za Nikel, Celik i Antimon	Mine and opencast mine near Kavadarci	2,300
Metal	do.	Ferronickel plant at Kavadarci	161
Pig iron	Skopje, Rudnici i Zeljezarnica Skopje	Five Elkem electric furnaces at Skopje	430
Steel, crude	do.	Plant at Skopje	980
Zinc metal	Zletovo, Topilnica za Cink i Olovo	Imperial Smelter plant and refinery at Titov Veles	65

e/ Estimated.

1/ Nickel in ferronickel.

TABLE 6
SERBIA AND MONTENEGRO: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand of metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Alumina	Kombinat Aluminijuma Titograd	Plant at Titograd, Montenegro	200.
Aluminum	do.	Smelter at Titograd, Montenegro	100.
Antimony, ores and concentrates	Zajaca, Rudarsko Tapioncarski Bazen	Mines and mills near Zajaca, Serbia	80.
Do.	do.	Mines and mill at Rajiceva Gora, Serbia	300.
Antimony, metal	do	Smelter at Zajaca, Serbia	4.
Bauxite	Rudnici Boksita, Niksic	Mines in Montenegro at Kutsko Brdo, Zagrad, Biocki Stan, Durakov Dol, and other locations	650.
Coal:			
Bituminous	Ibarski Rudnici Kamenog Uglja	Mines at Jarando and Usce, near Baljevac na Ibru, Serbia	250.
Lignite	SOUR Kolubara, Rudarsko Energetsko Industrijski Kombinat, RO	Opencast mines: Polje B and Polje D	10,000.
Do.	Kolubara Povrsinski Kopovi	Tamnavski Kopovi (also known as Kolubarski Rudnici Lignita), near Vreoci, Serbia	14,000.
Do.	SOUR Elektroprivreda Kosova, RO Kosovo, Proizvodnja Separacija i Transport Uglja	Opencast mines at Dobro Selo and Belacevac, near Obilic, Serbia	2,000.
Cement	Becinska Fabrika Cementa	Plant at Beocin, Serbia	2,031.
Do.	Fabrika Cementa Novi Popovac	Plant at Popovac, Serbia	1,613.
Copper	Rudarsko Topionicki Bazen Bor	Smelter at Bor, Serbia	180.
Do.	do.	Electrolytic refinery at Bor, Serbia	180.
Do.	do.	Mine and mill at Bor, Serbia	5,000 ore.
Do.	do.	Mine and mill at Majdanpek, Serbia	15,000 ore.
Do.	do.	Mine and mill at Veliki Krivelj, Serbia	8,000 ore.
Lead-zinc ore	Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepca	Mines at Ajvalija, Kopanaonik, Badovac; Trepca, Trepca, Blagodat, Lece; Veliki Majdan, Tisovak; and Ksinnica, Rudnik, Suplja Stijena	5,000.
Do.	Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepca	Mills at Kriva Feja, Lece, Rudnik, Badovac, Leposavic, Zvecan, and Maravce, Suplja Stijena	3,160.

TABLE 6--Continued
SERBIA AND MONTENEGRO: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand of metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Lead-zinc ore--Continued:		Hemijska Industrija Zorka: Brskovo, Rudnici Olova i Cinka	Mine at Brskovo, Montenegro	500.
Do.		Veliki Majdan Rudnik Olova i Cinka	Mine at mill near Krupanj, Serbia	250.
Lead, metal		Rudarsko Metalursko Hemijski Kombinat za Olovo i Cink Trepca	Smelter at Zvecan, Serbia	180.
Do.		do.	Refinery at Zvecan, Serbia	90.
Magnesite, concentrate		Rudnici Magnezita "Sumadija"	Mine and plant at Sumadija, 20 kilometers northwest of Cacak, Serbia	120.
Do.		Rudnik i Industrija Magnezita "Strezovce"	Opencast mine at Beli Kamen, Strezovce, near Itiova Metrovica, Serbia	300.
Do.		do.	Sinter plant at Strezovce	40.
Do.		Magnohrom, Rudnik Magnezita "Magnezit"	Mine at Bela Stena, Baljevac na Ibru, Serbia	30.
Natural gas	million cubic feet	Naftaplin (Naftagas), RO za Istazivanje, Istrazivanje, i Provozodnju Nafte i Gasa	Natural gasfields in Serbia include Kinkinda	30,000.
Petroleum:				
Crude	thousand barrels per day	Naftagas, Naftna Industrija	Oilfields in Serbia include Kikinda	30.
Refined	do.	Naftagas, Naftna Industrija, Rafinerija Nafte Pancevo	Refinery at Pancevo, Serbia	110.
Do.	do.	Naftagas, Naftna Industrija, Rafinerija Nafte Novi Sad	Refinery at Novi Sad, Serbia	28.
Pig iron		Metalurski Kombinat, Smederevo	Blast furance at Smederevo, Serbia	720.
Steel, crude		do.	Plant at Smederevo, Serbia	600.
Zinc metal		Rudarsko Metalursko Hemijski Kombinat Olova i Cinka Trepca, Metalurgija Cinka	Electrolytic plant at Titova Metrovica, Serbia	40.
Do.		Hemijska Industrija Zorka	Electrolytic plant at Sabac, Serbia	40.

TABLE 7
SLOVENIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2000

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facilities	Annual capacity
Alumina		Talum d.o.o.	Plant at Kidricevo	120
Aluminum		do.	Smelter at Kidricevo	72
Coal:				
Brown		SOZC, Rudarsko Energetski Kombinat E. Kardelj, Trobovlje, Slovenia	Mines: Sasavski Rudnici at Trbovlje, Hrastnik, Ojstro, Senovo, and Kanizarnica	1,300
Lignite		Rudarsko Energetski Kombinat Velenje, RO Rudnik Lignita-Velenje	Mine at Velenje	5,000
Cement		Salonit Anhovo	Plant at Anhovo	1,120
Lead metal		Rudnik Svinca in Topilnica, Mezica	Smelter at Mezica	35
Do.		do.	Refinery at Mezica	30
Petroleum, refined	thousand barrels per day	Industrija Nafte (INA) Rafinerija Nafte Lendava	Refinery at Lendava	16
Pig iron		Zdruzeno Podjetje Slovenske Zelezarne	Two blast furnaces at Zelazara Jesenice	300
Do.		Zelezara Store	Electric reduction furnaces at Store pri Celju	290
Steel, crude		Zdruzeno Podjetje Slovenske Zelezarne	Plant at Jesenica	500
Do.		do.	Plant at Ravne	162
Do.		do.	Plant at Store	140